

Volume 55  
 Number 12  
 2012  
 Pages 1169–1281

# PHYSICS- USPEKHI

English edition of *Uspekhi Fizicheskikh Nauk*  
 December 2012 Volume 182 Number 12

*Russian original  
 reference  
 Usp. Fiz. Nauk  
 Vol. 182, pages*

## Contents

*English translation  
 reference  
 Phys. Usp.  
 Vol. 55, pages*

### REVIEWS OF TOPICAL PROBLEMS

- |      |   |             |
|------|---|-------------|
| 1249 | <b>Frustrated lattices of Ising chains</b><br>Yu B Kudasov, A S Korshunov, V N Pavlov, D A Maslov | <b>1169</b> |
| 1275 | <b>Proteins as specific polar media for charge transfer processes</b><br>L I Krishtalik           | <b>1192</b> |

### METHODOLOGICAL NOTES

- |      |   |             |
|------|---|-------------|
| 1301 | <b>On special relativity teaching using modern experimental data</b><br>V A Aleshkevich                                   | <b>1214</b> |
| 1319 | <b>On relativistic motion of a pair of particles<br/>         having opposite signs of masses</b><br>P B Ivanov           | <b>1232</b> |
| 1327 | <b>Angular beam width of a slit-diffracted wave<br/>         with noncollinear group and phase velocities</b><br>E H Lock | <b>1239</b> |

*Continued overleaf*

*Russian original  
reference  
Usp. Fiz. Nauk  
Vol. 182, pages*

*Contents continued*

*English translation  
reference  
Phys. Usp.  
Vol. 55, pages*

# CONFERENCES AND SYMPOSIA

1345	<b>Spintronics and nanomagnetism</b> (Scientific session of the Physical Sciences Division of the Russian Academy of Sciences, 25 April 2012):	<b>1255</b>
1345	<b>Magnetic states and transport properties of ferromagnetic nanostructures</b> A A Fraerman	1255
1351	<b>Nonlinear wave processes in a deformable solid as in a multiscale hierarchically organized system</b> V E Panin, V E Egorushkin, A V Panin	1260

# PERSONALIA

1359	<b>Yurii Georgievich Abov (on his 90th birthday)</b> V L Aksenov, A D Gul'ko, M V Danilov, G V Danilyan, F S Dzheparov, N O Elyutin, B L Ioffe, Yu F Kozlov, D V Lvov, L B Okun, M N Strikhanov, V V Fedorov	<b>1268</b>
1344	<b>Physics news on the Internet</b> Yu N Eroshenko	<b>1270</b>

# BIBLIOGRAPHY

<b>Authors index to Vol. 55, 2012</b>	<b>1272</b>
<b>Subject index to Vol. 55, 2012</b>	<b>1275</b>
<b>Concordance table of page numbers of papers in the English and Russian editions</b>	<b>1281</b>